the individual is in part due will persist in the next generation; and, furthermore, that there will arise, by like processes in successive generations, an accumulation of such connate characters. Hence, it is said there may appear to be an inheritance of acquired characters where, in reality, there is only an accumulation of connate characters identical with the acquired characters which, as it were, shield the connate characters while they are accumulating in successive generations.

My intention is not to discuss the merits of this hypothesis, but to say that, if I understand it, it is by no means new. It was clearly set forth by Herbert Spencer, in his 'Principles of Biology,' in the year 1866. Though it may have been presented by him or by others before that time, in writings of which I am uninformed, it will be of interest to examine the following statement of it in the work referred to:

"The working out of the process is here somewhat difficult to follow; but it appears to me that as fast as the number of bodily and mental faculties increases, and as fast as the maintenance of life comes to depend less on the amount of any one, and more on the combined action of all; so fast does the production of specialties of character by natural selection alone, become difficult. Particularly does this seem to be so with a species so multitudinous in its powers as mankind; and above all does it seem to be so with such of the human powers as have but minor shares in aiding the struggle for life—the esthetic faculties, for example.

"It by no means follows, however, that in cases of this kind, and cases of the preceding kind natural selection plays no part. Wherever it is not the chief agent in working organic changes, it is still, very generally, a secondary agent. The survival of the fittest must nearly always further the production of modifications which produce fitness; whether they be modifications that have arisen incidentally, or modifications that have been caused by direct adaptation. Evidently those individuals whose constitutions or circumstances have facilitated the production in them of any structural change consequent on any functional change demanded by some new external condition, will be the individuals most likely to live and to leave descendants. There must be a natural selection of functionally-acquired peculiarities, as well as of incidental peculiarities; and hence such structural changes in a species as result from changes of habit necessitated by changed circumstances, natural selection will render more rapid than they would otherwise be." (Prin. of Biology, Vol. 1, p. 454.)

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EUPROCTIS CHRYSORRHŒA IN MASSACHUSETTS.

ON May 13th Dr. Roland Thaxter brought me a few larvæ he had found on pear trees in Cambridge. After examination I identified these as *Euproctis* (*Porthesia*) *chrysorrhœa* Linné, commonly called the Goldtail, a species hitherto unrecorded from this country. It occurs locally in England, is abundant in central and southern Europe, and is also recorded from northern Africa and Asia Minor. When found in great profusion their ravages are exceedingly serious.

May 15th, Dr. Thaxter and I visited a locality in Somerville, not far from the Cambridge line, and found the larvæ extremely abundant on pear, and somewhat less so on apple. We were told that they were noticed last spring for the first time and that they fed only on pear and apple. The larvæ feed gregariously and build small, tent-like nests. A slight jar causes them to drop from the trees and they give rise to further annoyance by the urticating power of their hairs. The larva may be described briefly as blackish with ochreous hairs, dorsal line double with pale ochreous, reddish markings, subdorsal line broad, with interrupted white markings; the tenth and eleventh segments have a conspicuous, dorsal, red tubercule. The head and thorax of the moth are white; the abdomen is white, with a brown or buff anal tuft; the wings are pure white, frequently with a black spot on the lower posterior margin of the fore wings. The alar expanse is 32–38 mm.

As previously stated, they have been found to feed here only on pear and apple, and the attempts I have made to effect a change of food have, thus far, failed. Abroad, however, the species has many food plants, apple, pear, plum, hawthorn, bramble, elm, willow, beech, oak, hazel nut, and hornbean being among those recorded. At present the larvæ seem to be confined to a rather limited area in Somerville and Cambridge. It is difficult to give an adequate idea of their abundance, their increase since last year, and their destructiveness. If the

species should become well established it will prove especially harmful; vigorous measures should, therefore, be taken to prevent its spreading.

Samuel Henshaw.

Cambridge, May 17, 1897.

SCIENTIFIC LITERATURE.

Das Tierreich. Eine Zusammenstellung und Kennzeichnung der rezenten Tierformen. Herausgegeben von der Deutschen Zoologischen Gesellschaft. Generalredakteur: Franz Eilhard Schulze. Berlin, R. Friedländer und Sohn. 1897.

It is about a hundred years since the last editions of Linnæi Systema Naturæ appeared, pretending to give a systematic descriptive enumeration of all natural history objects known at that time. Those were days when one man could undertake such a work including all the known animals, plants and minerals. In most cases these editions were baseless and uncritical compilations, but, nevertheless, their influence was so stimulating that before the end of the eighteenth century the task of keeping these descriptive lists up became impossible. The three kingdoms separated first, but even the animal kingdom alone got beyond the control of the zoologists, and no descriptive list of all the animals was undertaken till our days, as Cuvier's Regne Animal did not pretend to take cognizance of any but the more common or remarkable forms.

The only publications of recent years, however, which, if kept up, would finally present in one series descriptions of all known animals are the catalogues of the specimens in the British Museum, but on the scale upon which these volumes are planned it will take ages before the task can be completed.

Recognizing this, the German Zoological Society has boldly stepped to the front and not only planned, but actually begun, a publication which intends to embrace systematic diagnoses of all living animals under the title 'Das Tierreich.' The plan of this gigantic undertaking is as follows:

The various groups of animals are to be worked up by specialists, a list of sixty-four colaborators having already been published. Their work is to be supervised by a number of division editors, twenty-one of whom are named. At the head of the whole, as editor-in-chief, is Dr. F. E. Schulze, of Berlin, assisted by an editorial committee consisting of the President of the German Zoological Society and Dr. K. Möbius, in Berlin.

In order to obtain uniformity, certain rules have been adopted: thus the nomenclature is to follow the canons of the German Zoological Society; the color designations are to be according to Saccardo's Chromotaxia, the abbreviations are to be uniform, etc.; subspecies are to be recognized; a short diagnosis of each form is to be given, accompanied by a list of all synonyms since 1758, as well as references to the most important literature and a brief statement of the geographical distribution; systematic synopsis of groups and keys to facilitate identifications are to be a special feature, and diagrams and figures in the text will illustrate the more difficult points. Every group is to be published as soon as finished, irrespective of its position in the system and as a separate whole, with title and index. Upon the completion of each division, table of contents and index follow, as well as a general table and index when the whole work is finished. The various parts are to be sold separately. The work will be published in the German language; exceptionally, however, also in English, French or Latin.

It will be seen from the above that the German Zoological Society has in view a most ambitious and colossal undertaking, which, if it is ever brought to conclusion, must prove of inestimable value to zoological science. The plan seems well considered and the names of the contributors thus far secured promise well for the thoroughness of the work to be undertaken. But will it ever be finished? Or rather, will it be finished within such a period that the beginning will not be completely antiquated before the editor-in-chief writes *finis* on the last page of the last part? We all remember the fate of another German undertaking of vastly less ambitious dimension, viz.: Brown's 'Thierklassen,' which, although begun in 1859, is not yet completed, and anxiously ask whether it may not require more than